ANOTHER ASCENT OF THE WORLD'S HIGHEST PEAK

—Qomolangma

FOREIGN LANGUAGES PRESS PEKING

Another Ascent of the World's Highest Peak

—*Qomolangma*

II. Geo. 29

FOREIGN LANGUAGES PRESS PEKING 1975

Printed in the People's Republic of China

While receiving delegates to the Ninth National Congress of the Communist Youth League of China, our great leader Chairman Mao shakes hands with the Tibetan delegate Konbu, a member of the first team ever to ascend the summit of Qomolangma Feng from the north side, which it did in 1960.

Foreword

ON May 27, 1975, nine Chinese mountaineers successfully ascended the world's highest peak, Qomolangma Feng (Mount Jolmo Lungma), from its north slope, thanks to the loving care and attention of Chairman Mao and the Central Committee of the Chinese Communist Party and to the wholehearted support of the people throughout the country. The nine mountaineers were: Phanthog (female), Sodnam Norbu, Lotse, Hou Sheng-fu, Samdrub, Darphuntso, Kunga Pasang, Tsering Tobgyal and Ngapo Khyen. Their remarkable feat in the conquest of nature, the second of its kind accomplished by Chinese mountaineers, was a triumph of Chairman Mao's proletarian revolutionary line, another creditable achievement of the Great Proletarian Cultural Revolution and the movement to criticize Lin Piao and Confucius.

Qomolangma straddles the border between China and the Kingdom of Nepal. Standing 8,848.13 metres above sea level and overlooking all the other glittering snow-covered peaks of the Himalayas, it is the highest peak in the world. With its towering cliffs bound by perennial ice and snow, its sides wreathed in swirling white clouds and its base swept by vast expanses of glaciers, it has attracted widespread interest over the centuries, and has appealed strongly to mountaineers far and near. Yet this majestic peak, with its deadly slopes, treacherous glaciers, capricious weather and rarefied air, was literally inaccessible.

Qomolangma was conquered from the north side for the first time in 1960 by a group of Chinese mountaineers. Guided by the Party, our alpinists had freed their minds of old prejudices and displaying a daring spirit, they said proudly, "Heroes who have high aims dare to slight Qomolangma's awesome height."

And now nine Chinese climbers reached the highest point on earth in the second ascent from the north face, making a new page for the annals of world mountaineering.

Such achievements fully demonstrate the heroism of the Chinese people, for whom there are no unscalable heights or unvanquishable fortresses. The fact that during the Chinese expedition, a woman climber reached the summit of Qomolangma from the north side for the first time in world history, serves as a convincing proof of the great truth pointed out by Chairman Mao: **"Times have changed, and today men and women are equal. Whatever men comrades can accomplish, women comrades can too."**

New China promotes mountaineering as a sport to serve proletarian politics, the interests of socialist economic construction and the building of national defence, to help improve the people's health, and to foster such fine qualities in them as wholehearted devotion to the people and the collective, and fearing neither hardship nor death. In the recent expedition to Qomolangma, the climbers, united as one, helped each other and gave full play to their collective strength.

Battling the elements and braving the perils of high altitudes and deep chasms, they edged ahead despite all tribulations and finally reached their goal — thanks to collective efforts. Working in close co-operation with scientific workers, surveyors, journalists and cameramen, they planted a red metal surveying tripod three m. high on the summit, which was an important aid in determining the mountain's precise height. They underwent electrocardiogram tests on a radio-controlled apparatus monitored below, conducted geological investigations on Qomolangma and an area within 300 square kilometres around it, obtained data from observations for working out the meteorological gradients of this region, collected samples of ice and snow, and took photos and motion pictures of the summit. All these will prove of great value to high-altitude scientific survey.

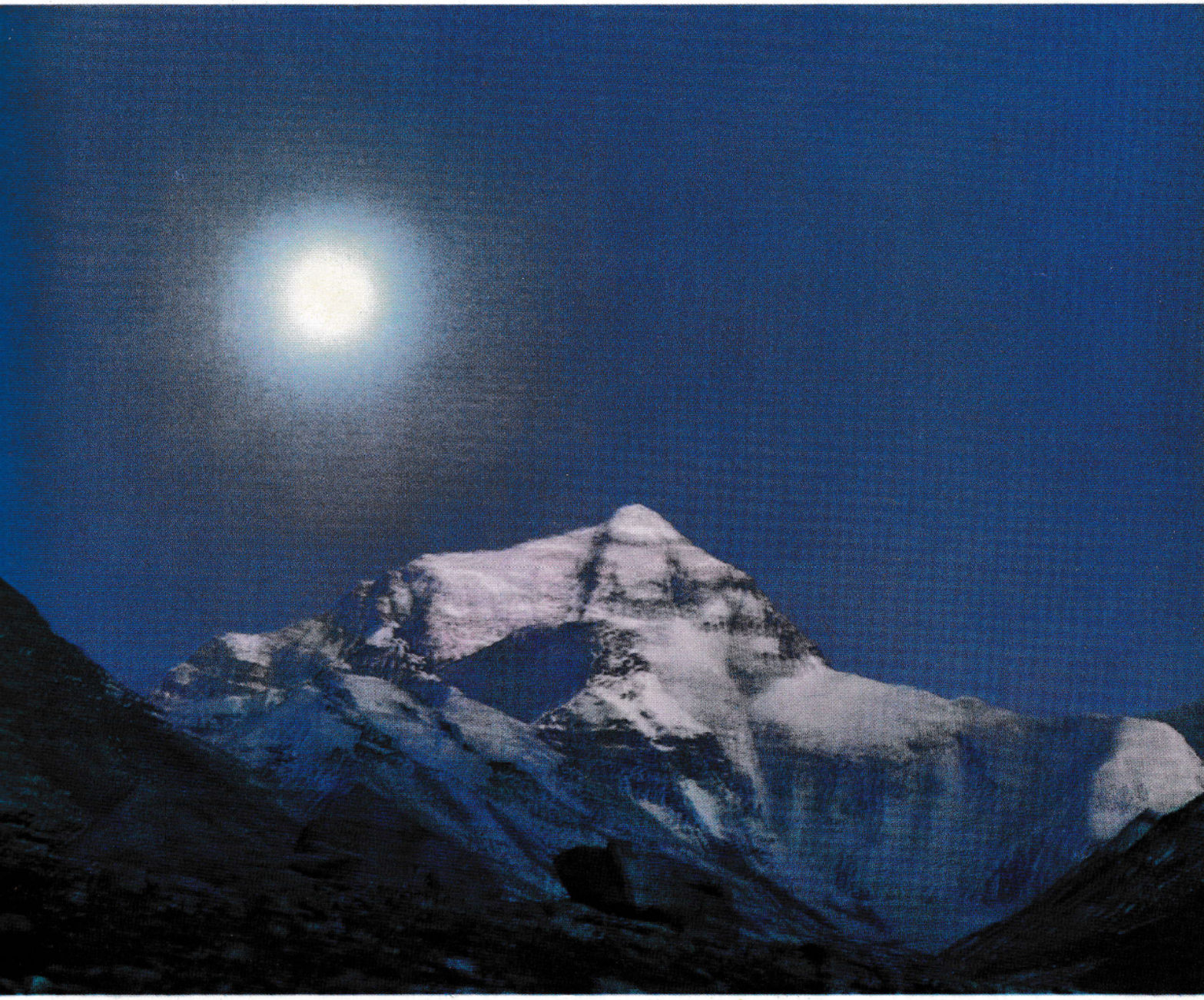
This album is an authentic record of the recent expedition and the thrilling battles waged by its members.

Qomolangma, the highest peak in the world, soars above the Himalayan massif and dwarfs the peaks around it like a colossal tower.

The pyramid-shaped summit of Qomolangma, bathed in golden sunlight, is seen in all its splendour against the blue sky.

With clouds billowing by its sides, Qomolangma seems to be spreading its wings to fly.

A beautiful night lit by the moon which sheds her light on the beauty of the sleeping mountain.



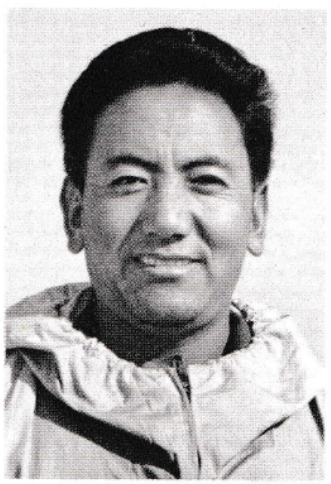
The weather on Qomolangma is truly capricious! A while ago it was basking in bright sun, now a whirling wind makes the snow dance all over it.

On May 27, 1975, nine Chinese climbers (one woman and eight men) erected a surveying tripod and unfurled a bright five-star red flag atop Qomolangma, the pinnacle of the earth, demonstrating once again the heroism of the Chinese people determined to conquer all heights and capture all fortresses in their way.

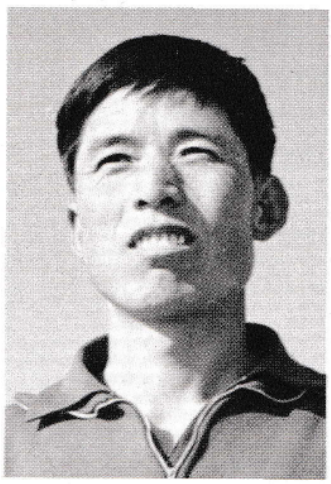
The Nine Climbers Who Reached the Summit

Phanthog

Sodnam Norbu



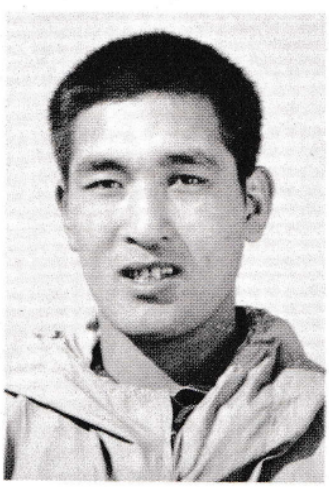
Lotse



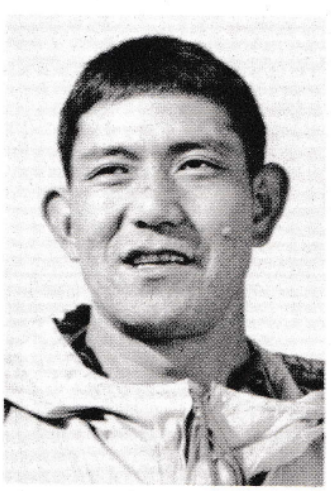
Hou Sheng-fu

Samdrub

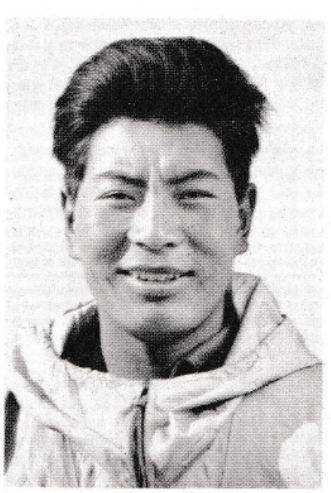
Darphuntso



Kunga Pasang



Tsering Tobgyal



Ngapo Khyen

The Route to the Summit

IN THE MAP:

6,500 m. — Camp 3
7,600 m. — Camp 5
8,300 m. and 8,600 m. — bivouacs
7,007 m. — Camp 4
8,200 m. — Camp 6
8,680 m. — final assault camp

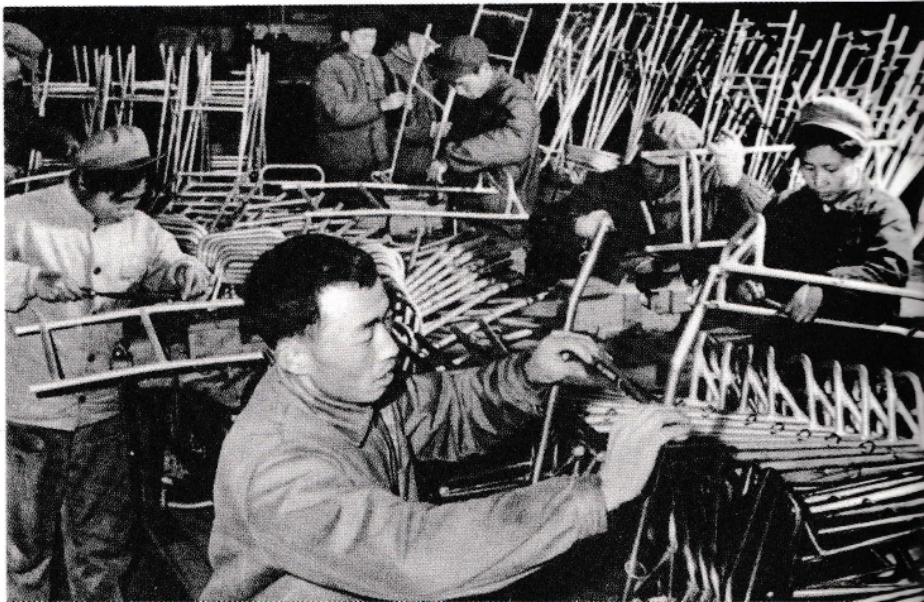
Source of strength, guarantee for victory. Earnestly studying Chairman Mao's works they enhance their consciousness of the necessity of continuing the revolution and strengthen their determination to conquer the world's highest peak.

"Never forget bitter class oppression, firmly remember the blood and tears of the down-trodden!" A visit to an exhibition on class education in Lhasa, exposing the brutal oppression of the Tibetan people by the serf-owners, arouses burning hatred for the old society and strong love of the new in the minds of the mountaineers.

Training hard to toughen up for the expedition.

Peking workers hand over to members of the Chinese expedition the surveying tripod which was later erected on the summit.

Shanghai workers make warm and comfortable eiderdown garments for the climbers.



Workers in Shensi Province make strong, convenient pack-frames for the expedition.

Top and right: Inhabitants of different nationalities of Lhasa, Tibet, bid a warm-hearted farewell to the Qomolangma-bound party.

Leading members of the Tibet Autonomous Region see the mountaineers off.

"With every cup of highland barley wine, with each bowl of buttered tea, keep the words of your dear ones in mind, always follow Chairman Mao's teachings and serve the people heart and soul!"

People of Nyingchi County, Tibet, supply the climbers with a huge amount of charcoal.

Hearty greetings cheer the expedition all along its march towards Qomolangma. Seen here are herdsmen at Lake Yanchouyun waving their best wishes to the mountaineers.

People's Liberation Army men work against time to clear the way for the expedition.

Supply trucks pour into Base Camp at 5,000 m. above sea level.

A game of volleyball on the plateau adds to the fun of camp life.

The day begins at Base Camp — mountaineers doing morning exercises.

Rigging up an open-air kitchen to provide everyone with hot good meals.

"Good morning, comrades! This is Radio Qomolangma of the Chinese Mountaineering Expedition!"

Flashing news to Peking.

Physical check-up.

Keeping a round-the-clock check on the changeable weather.

Helping each other on with packs before setting out on an acclimatization march.

Members of the expedition bidding farewell to comrades at Base Camp before starting out on the march to victory.

Trudging along the medial moraine of the East Rongbuk Glacier.

Passing through a sérac region at 5,700 m.

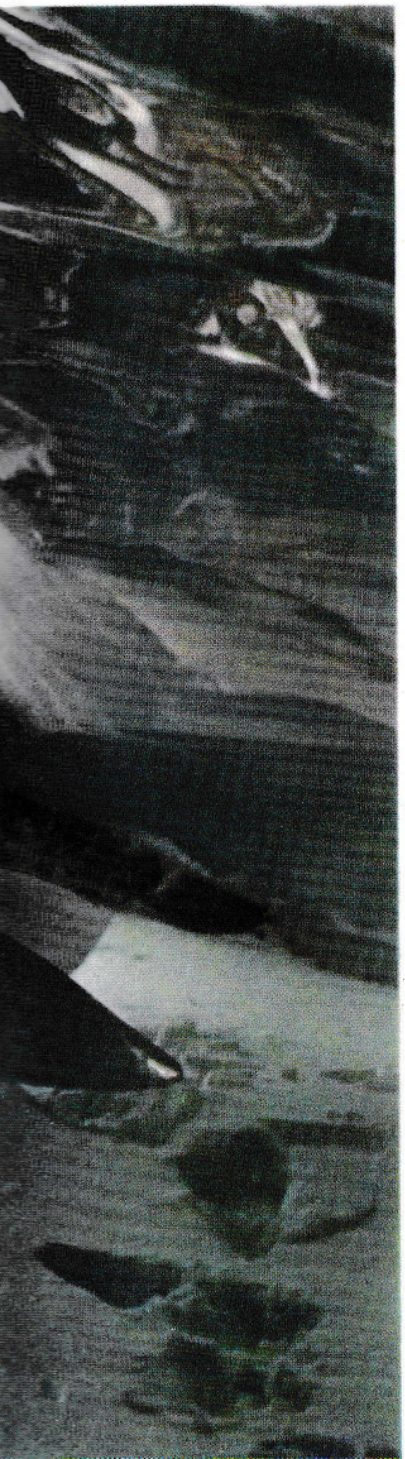
Generous Tibetans drive their yaks to 6,500 m. above sea level — a record height for this animal — to help with transport.

Crystalline séracs jutting straight into the air.

An "ice mushroom," glacier table resting on an ice pedestal. The huge boulder deposited on the top prevents the ice column underneath from melting, resulting in this peculiar phenomenon.

A glacier river, formed by the melting of surface ice which seeps through cracks in the glacier and causes further melting in them.

Crossing a crevasse at 6,300 m. at the East Rongbuk Glacier.



Ice cavern in the sérac region — a splendid "crystal palace" — one of nature's masterpieces. The reflection of light on the walls produces a wonderful kaleidoscopic effect.

Study hard to combat and prevent revisionism and consolidate the dictatorship of the proletariat. Secretary of the Party Committee of the Expedition Wang Fu-chou (*second right*), one of the three that reached the summit of Qomolangma for the first time ever from the north slope in 1960, and mountaineers at the 6,000-m. camp, study the theory of the dictatorship of the proletariat to fortify their revolutionary will in scaling the world's highest peak.

Happiness belongs to those who fear no hardships. Such are our mountaineers, seen here dancing joyfully at a camp.

Pep talk at Advance Command Post at 6,500 m. to get everybody prepared for the forthcoming battle against the formidable North Col.

Leading members of the expedition scanning the terrain of North Col. *From right to left:* Secretary of the Communist Party Committee Wang Fu-chou, leader of the expedition Shih Chan-chun and deputy leader Hsu Ching.

The scouting group, which undertakes to break the trail for the main party, is the first to negotiate North Col.

Cutting steps on the steep ice slope of North Col. The scouts volunteer to take all the risks upon themselves in order to ensure a safe passage for their comrades.

Making sure that the metal ladder laid across the crevasse is hundred per cent safe.

The transport team carries large amounts of supplies to the altitude camps.

As the air gets thinner the going gets tougher, and they lean on their ice-axes to rest before going on.

The mountaineering party got straight up North Col.

The crossing of this crevasse requires both courage and prudence.

With the top of North Col close at hand, step by step they pick their way cautiously along the edge of the crevasse at 6,950 m.

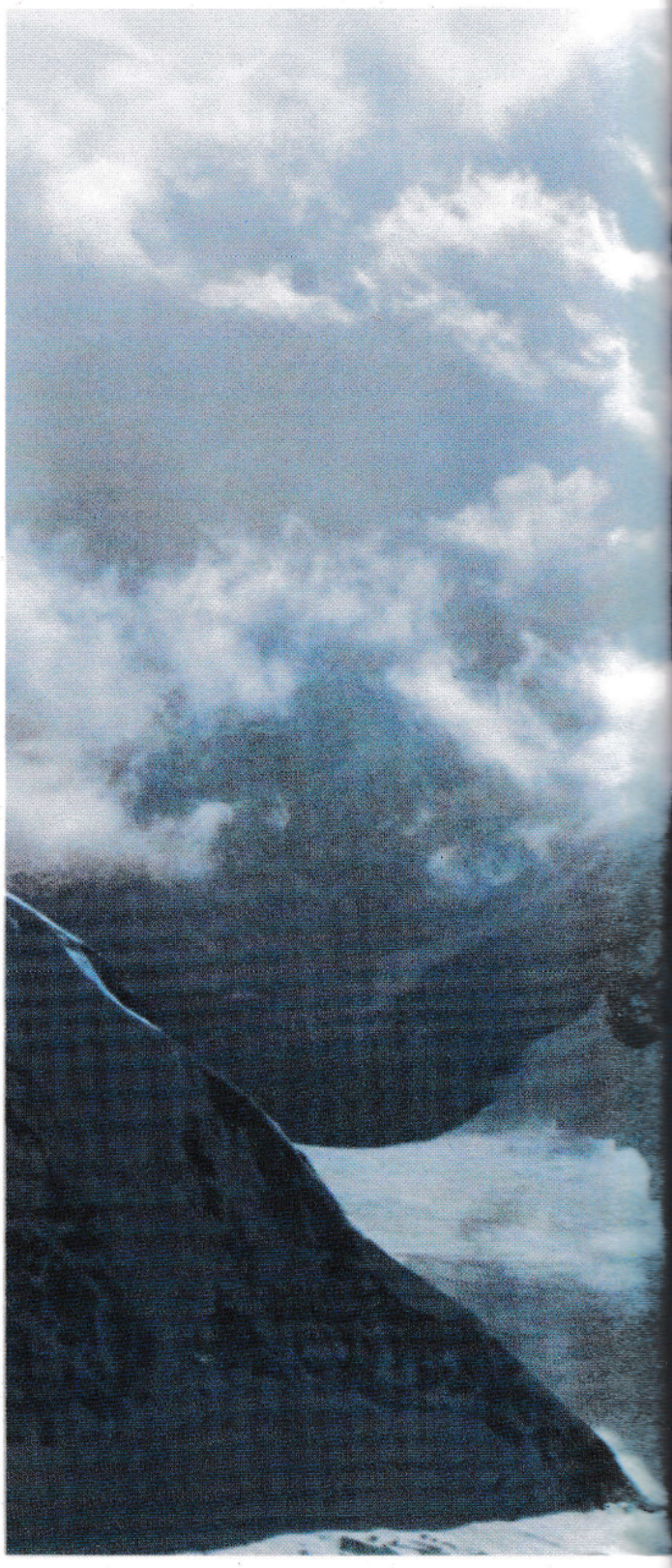
On the top of North Col.

Camp 4 above North Col.

The protective nylon rope, linking the climbers together, is highly treasured as a tie of comradeship.

Some of the women alpinists who climbed upwards of 7,007 m. This photo, taken at 7,007 m., shows Phanthog (*third right*), who reached the summit; Gunsang (*third left*), Zhasang (*first right*) and Chamco (*second right*), who reached 8,600 m.; Pasang (*first left*) and Balzhan (*second left*), who got up to 7,800 m.

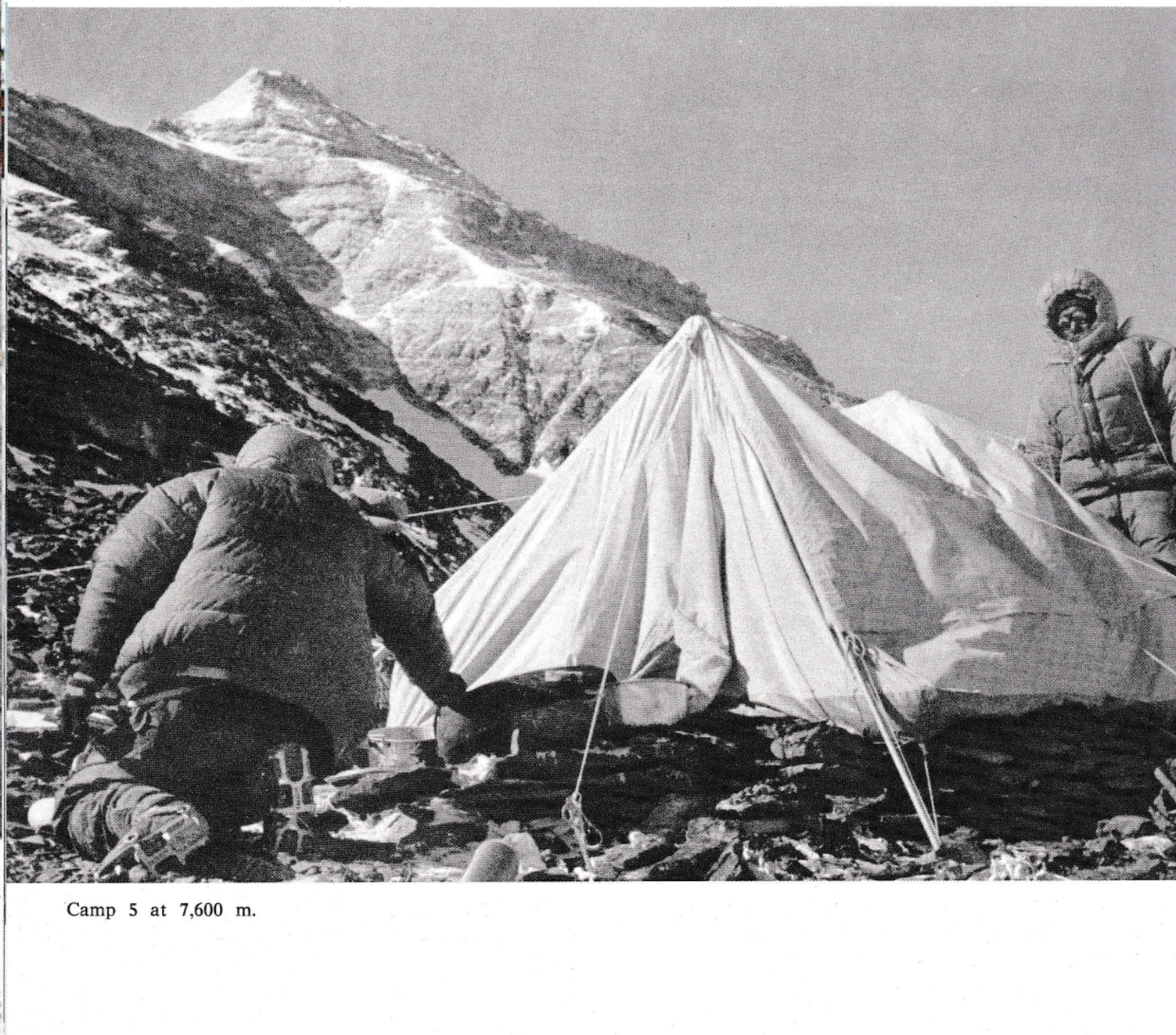
A magnificent spectacle — an ocean of clouds to the west of North Col. The Pumori Peak is seen in the centre thrusting through the clouds.



Shooting the wonderful scenery at 7,007 m. atop North Col.

Marching along the snowy ridge of North Col.

Nothing can stop the advance of the mountaineering heroes armed with Mao Tsetung Thought. Here, they are seen struggling up a snowy slope at 7,400 m. in the teeth of ferocious altitude winds.



Camp 5 at 7,600 m.

The Final Assault on the Summit

AFTER three acclimatization marches, the Chinese Mountaineering Expedition organized three assaults on the summit of Qomolangma Feng. The first two were not successful, and in the course of one of them Comrade Wu Tsung-yueh, deputy commissar of the expedition, died a hero's death after holding out to the last at 8,500 m.

On May 17, 1975, the final assault began. The summit party — one woman and eight men — was pinned down at 7,600 m. due to a force eight to nine wind accompanied by snow, which raged unremittingly in the Qomolangma area, from May 20 to 23. The blizzard was so fierce that the tents, though anchored with finger-thick nylon ropes, swayed violently. It was extremely difficult either to light the gas camping stoves or to go out to fetch snow for boiling water. But the climbers' high spirits withstood the severe tests of hunger, thirst and cold, and they held out in the tents for four whole days and nights.

On May 24, when the blizzard had abated a bit, the first roped group moved on, in spite of fatigue, and reached the final assault camp at 8,680 m., after a day's climb. The second roped group started out on May 25, and joined the first the following day.

On May 27, unusually fine weather with a force three or four wind set in, and the sun shone brightly in the azure sky. The pyramid-shaped top of Qomolangma was clearly visible ahead, with wisps of white clouds floating around the massif.

The climbers were now less than 200 m. below the summit, and they were soon to accomplish the task assigned them by the Party and the people. Yet they were well aware of the many difficulties and hazards

ahead. They expressed their determination in one voice: "We will not return until we have conquered the summit!", "We'd rather die taking a step forward than live on half a step backward!"

At eight a.m., the nine assault members left camp in two roped groups. In the first were Sodnam Norbu, Darphuntso, Tsering Tobgyal and Kunga Pasang; in the second Phanthog, Lotse, Hou Sheng-fu, Samdrub and Ngapo Khyen.

The summit was only half a kilometre away from the 8,680-m. assault camp. However, because of the rareness of oxygen at altitudes exceeding 8,600 m., the climbers had to stop frequently to gasp for breath while leaning on their ice-axes, and their advance was reduced to a snail's pace. Nevertheless, they were undaunted by the tremendous difficulties.

Steadily the whole party worked its way up along the steep ridge. After about 10 m., the way ahead was blocked by a rock of considerable size which could be passed only by a toehold on its right side. With Sodnam Norbu in the lead, they cautiously made use of this hold to skirt the rock, and then climbed a small snow slope six or seven m. high. Now the steep upper part of Second Step loomed overhead, while the precipice underfoot dropped away into the unfathomable depths of the glacier-filled chasm. It seemed as if they were hanging on the wall of a sheer cliff!

Second Step had a relative altitude of about 20 m. and a mean gradient of 60 to 70 degrees, being almost vertical for the top five m. It has been described in relevant foreign literature as too great an obstacle to warrant any further attempts on it.

Supporting each other, the summit party continued their strenuous climb along the metal ladder laid by Sodnam Norbu's trail-breaking group the previous afternoon. As the ladder was one m. too short, they had

to negotiate this last stretch to the top of Second Step with the aid of a nylon rope. The one-m. stretch had a gradient of over 90 degrees, so while scaling it the climbers had to lean slightly backwards grasping the rope with their hands, and scrambling for crevices with their feet to give them balancing points on the cliff face. At 9:30 that morning, they emerged atop the treacherous Second Step safe and sound.

The assault party then passed through a talus, laboured up a slope of ice and snow with a hard and slippery surface, negotiated a dark, rocky scarp and got to an extensive stretch of ice and snow leading to the summit. It was noon. The assault members were extremely tired after several hours' trek. They sat down on the ice slope and took a few breaths of oxygen before starting on the last stretch of their assault.

The wind gained force steadily, the air became thinner and thinner, and the going was still tougher. Suddenly, Sodnam Norbu, who was leading, felt a jerk at the main rope from behind. Turning round, he found Kunga Pasang had fainted. Sodnam Norbu quickly went to his help, resting him against the rock face and administering oxygen to him. When Kunga Pasang came round, Sodnam Norbu said affectionately, "Pasang, just hold on a bit longer. We'll soon be at the summit. We must all reach it. We shall stand together as a collective fulfilling the task entrusted to us by the Party." Moved to tears by comradely feelings, Pasang pulled himself together and resumed the march with the others. . . .

After trudging along the rugged slope of ice and snow for more than 100 m., the nine came to a dorsal-shaped strip about one m. wide and more than 10 m. long at the crest of the slope. Looking around them, they could find no higher point than the one on which they stood. They had at long last reached the summit of Qomolangma! This highest point on the globe had once again been conquered from the north slope by heroic Chinese mountaineers. It was 14:30 hours (Peking time).

Special plane from Peking sent by the Central Committee of the Communist Party airlifts fresh vegetables and fruit to the mountaineering expedition.

Close Attention Great Inspiration

The silvery planes flew in from the golden capital,
Bringing with them an invigorating spring breeze.
The Party's loving care warms our hearts,
Qomolangma is closely linked with Peking.

IN early and mid-May, just before the final assault on the summit, the Party Central Committee twice dispatched planes from Peking to carry fresh fruit and vegetables to the mountaineering expedition.

Basketfuls of fresh cucumbers, runner beans, garlic sprouts, green peppers and peas, flaming red apples and tomatoes, golden oranges and pears were trucked from the airport to Base Camp.

The stirring news of the arrival of these supplies flew to the various altitude camps.

The summit-bound mountaineers of different nationalities were moved to tears at the sight of the fresh fruit and vegetables which symbolized the kind attention shown them by our great leader Chairman Mao and the Party Central Committee, and also reminded them of the earnest expectations of the people.

Instantly, pledges and applications written by climbers were filed with the expedition's Party committee like a flurry of snowflakes. Phanthog, the woman climber who served as deputy leader of the expedition, wrote in her pledge: "Our great leader and beloved Party, your care and attention have given us immeasurable strength. Despite its immense height, we will certainly conquer Qomolangma!"

The brilliant sun shines on the borderland,
Chairman Mao is with us. . . .
Holding the fresh fruit we turn towards Peking,
Our determination strong as iron and steel. . . .

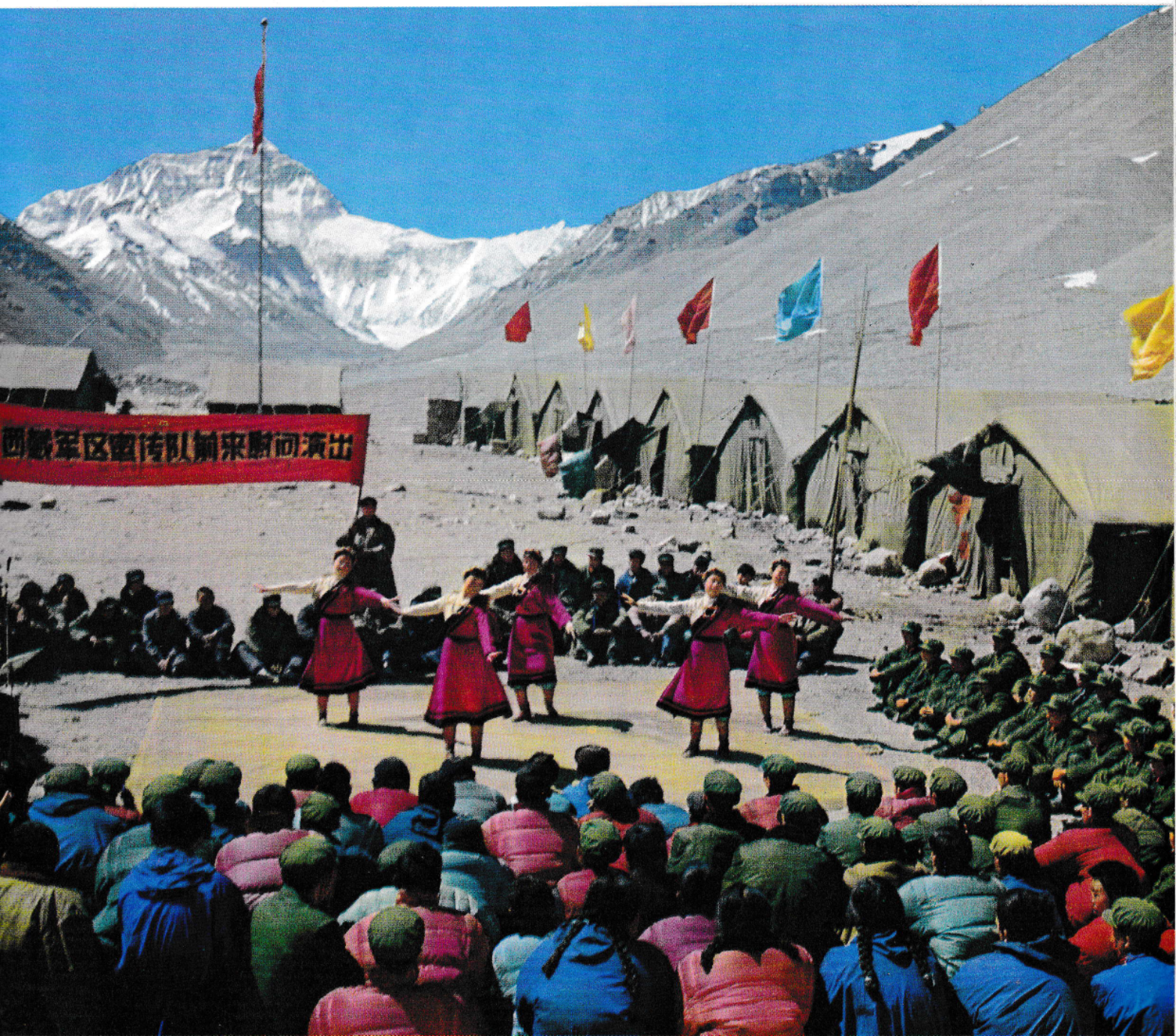
Filled with enthusiasm, the climbers sang and danced to demonstrate their resolve to succeed in their final assault on the summit.

The vegetables and fruit are brought to Base Camp.

Leading members of the Communist Party Committee of the Tibet Autonomous Region make a special trip across mountains and rivers to bring their greetings to the expedition at Base Camp.

A responsible comrade of the Physical Culture and Sports Commission of the Tibet Autonomous Region, Konbu (one of the trio who scaled Qomolangma from the north side in 1960), comes to Base Camp to see the mountaineers off.

An art troupe of the PLA Tibet Command entertains the climbers with a colourful performance at Base Camp.



The Communist Party Committee of the Expedition carefully works out a plan for the final assault on the summit.

Women alpinists write big-character posters to criticize the reactionary fallacy preached by Lin Piao and Confucius, that "man is superior to woman," and to pledge their determination to win honour for socialist China by a successful climb of Qomolangma.

The assault group gives a pledge to the Party before setting out on the march: "We will see that our five-star national flag once again flies over Qomolangma."

Phanthog (*right*), deputy leader of the expedition, expressing her determination.

Sodnam Norbu, secretary of the assault group's Party branch, voices his pledge.

The final assault group before setting out takes over the five-star red flag and the surveying tripod to be planted atop Qomolangma.

Saying good-bye to his comrades, Wu Tsung-yueh, deputy political commissar of the expedition, sets out on the march to Qomolangma with his party.

Forward to 8,200 m.

A new member is admitted into the Communist Party at the 8,200-m. camp.

Camp 6 at 8,200 m.

A bivouac
at 8,300 m.

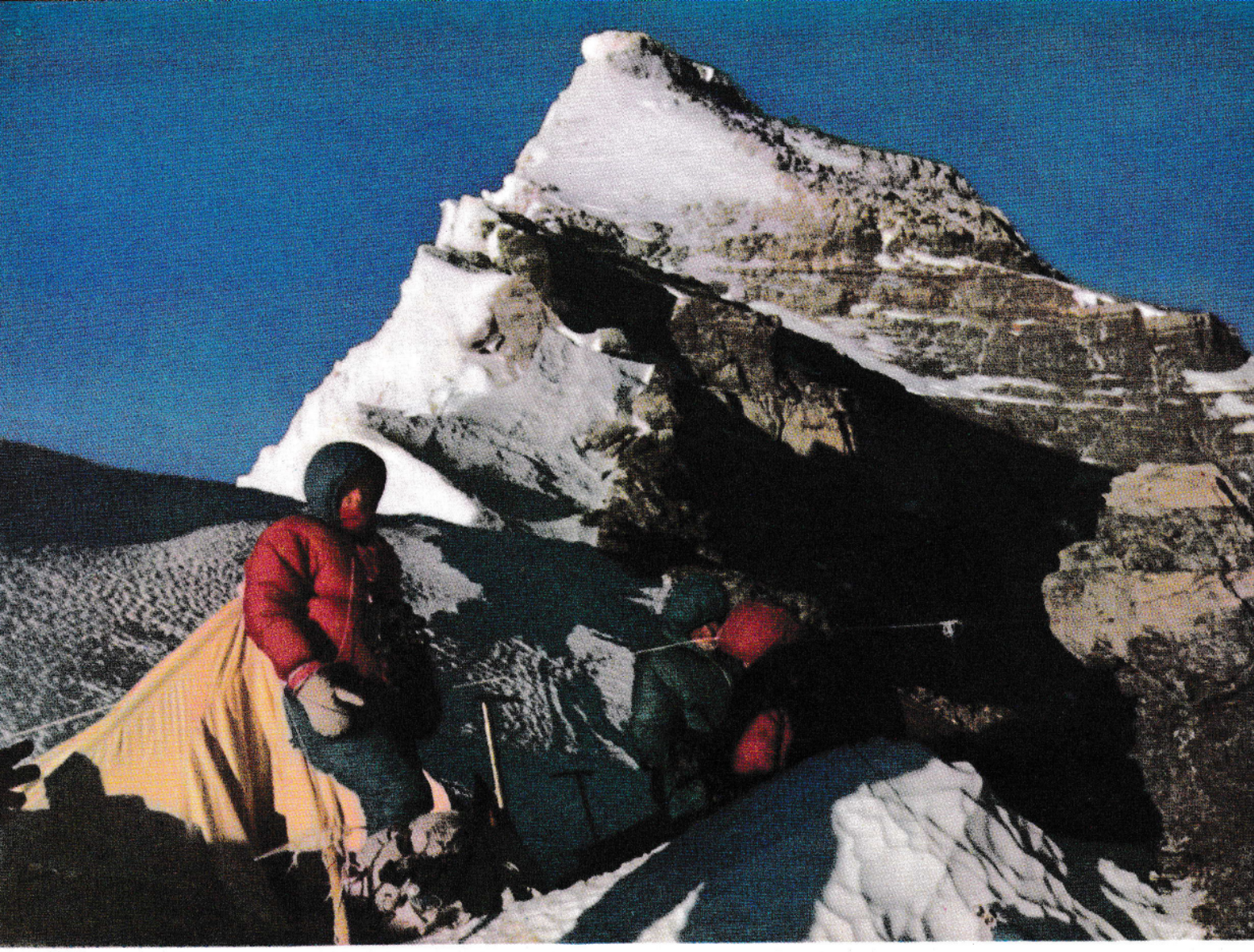
Pei Feng (North Peak) is within sight at 8,300 m. Also known as Changtze Peak, Pei Feng is a famous satellite peak of Qomolangma.

Reaching the "Yellow Band" at 8,400 m.

Clambering up a sheer cliff.

Resting at the "Yellow Band."

Looking southeastwards at Makalu Peak from the bivouac at 8,600 m.



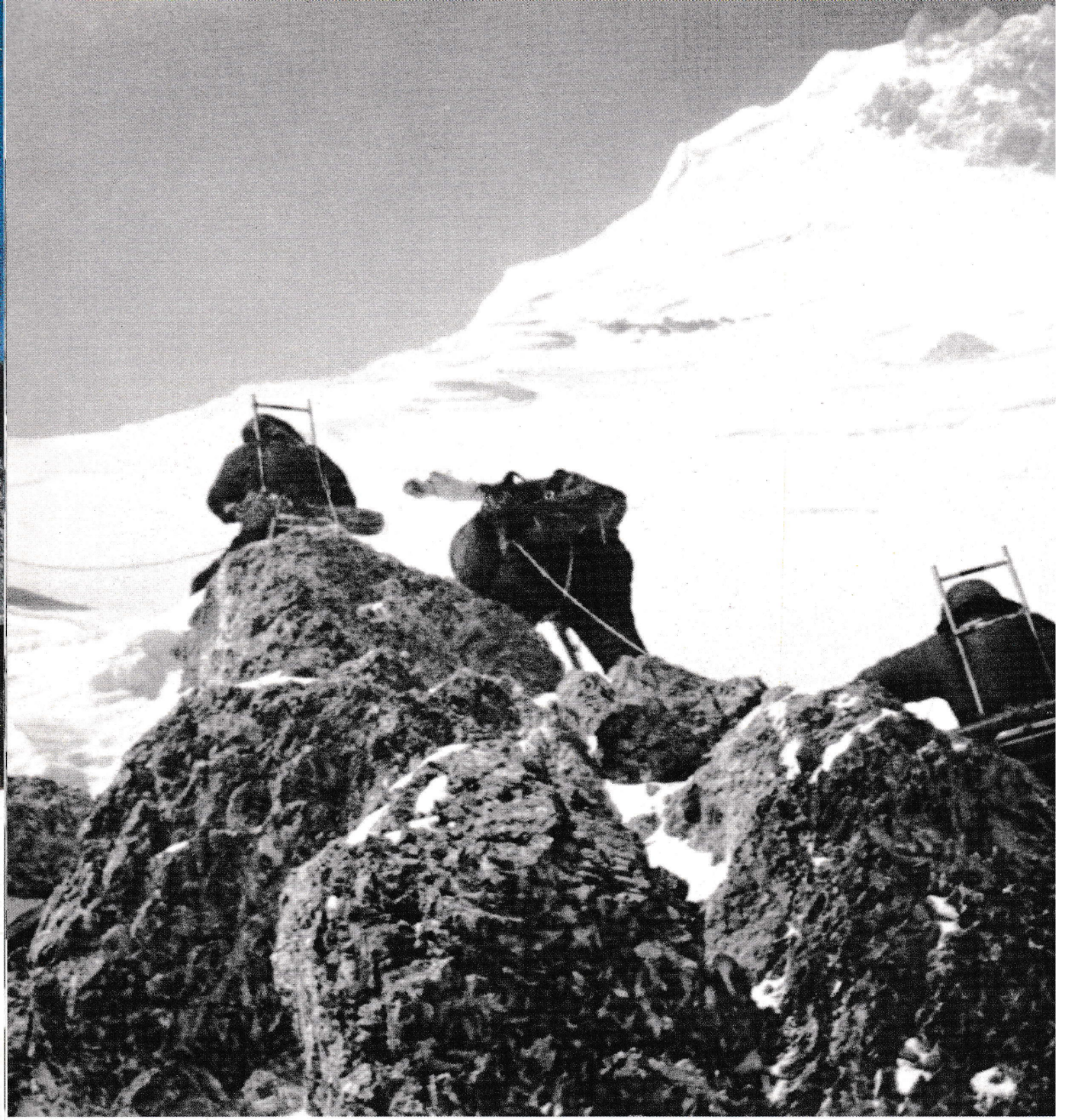
The final assault camp at 8,680 m.

The assault party tackling Second Step.

Pushing towards the summit after scaling Second Step.

Having climbed upwards of 8,700 m. they find their road of advance blocked by a huge mass of rock.

A short pause for oxygen.



Moving on with the rock behind them.

Phanthog pauses at 8,770 m.

Lashed by a blizzard the assault party thrusts forward determinedly towards the summit.

With the summit only a stone's throw away, they press ahead with redoubled courage and determination.

On behalf of all the members of the final assault team, Hou Sheng-fu reports the stirring news to Base Camp over the walkie-talkie: "All of us nine comrades have successfully reached the summit of Qomolangma!"

Instantly Base Camp becomes alive with joy and excitement, shouts of "Long live Chairman Mao!" and "Long live the Chinese Communist Party!" echo through the valleys.

Erecting the metal surveying tripod.

The tripod stands high on the summit.

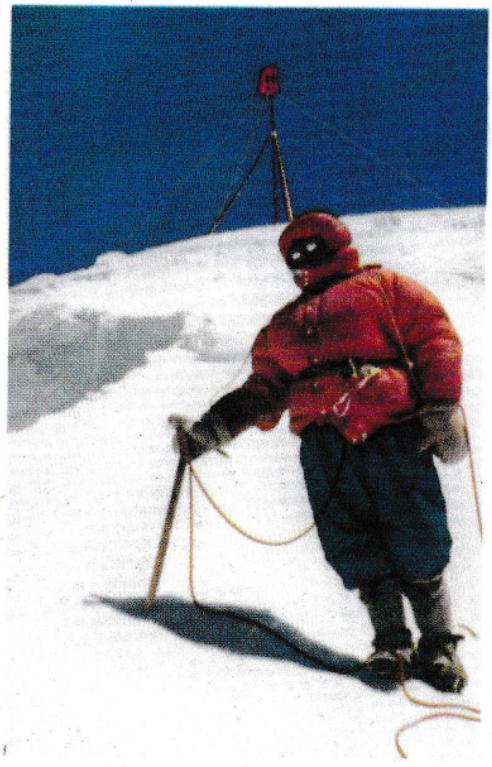
Phanthog lies quietly on the top for a radio-controlled electrocardiographic test monitored at Base Camp.

Sodnam Norbu picks up some ice-and-snow specimens from the summit.

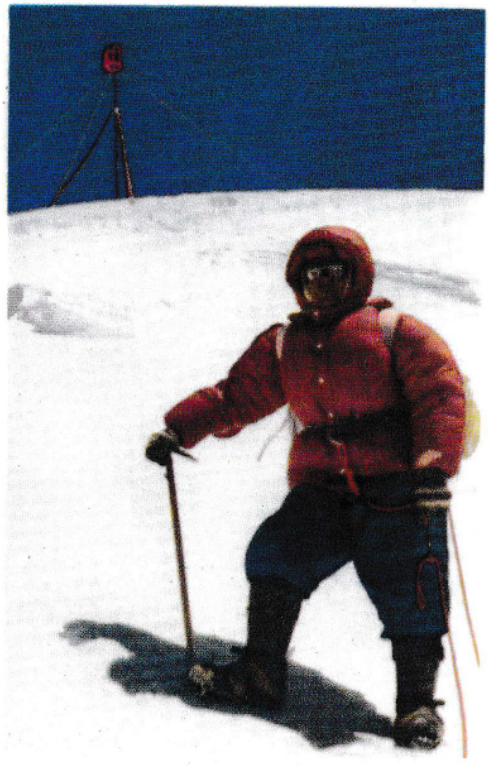
Sodnam Norbu takes films on the top.

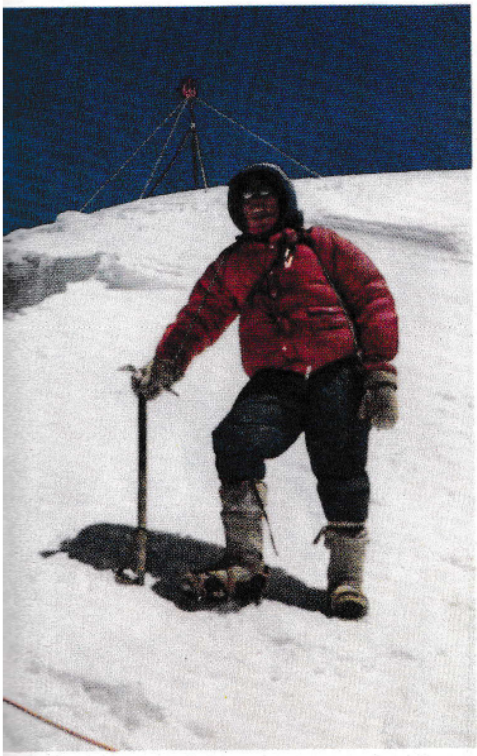
Assault Members Posing for a Photograph on the Summit

Phanthog

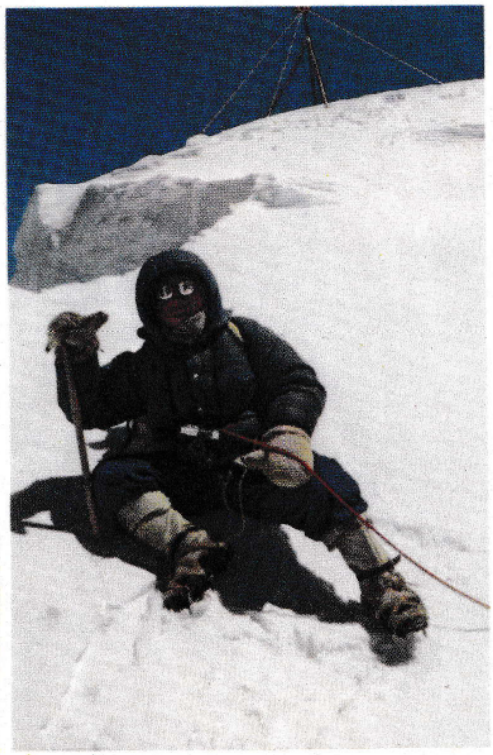


Lotse

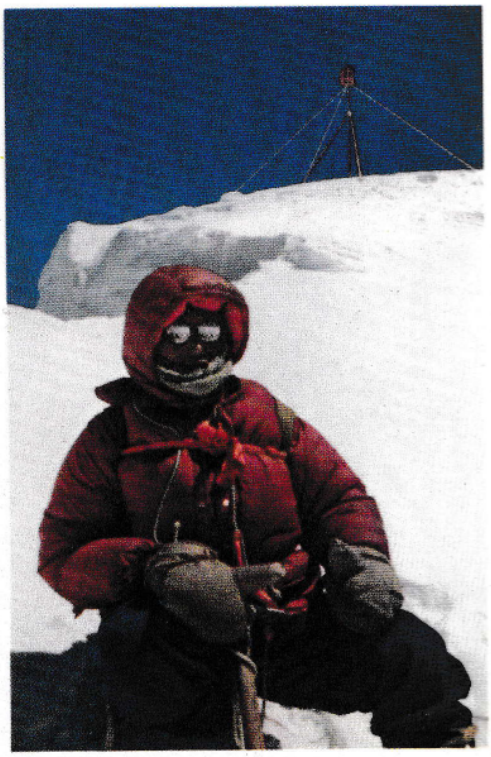




Hou Sheng-fu



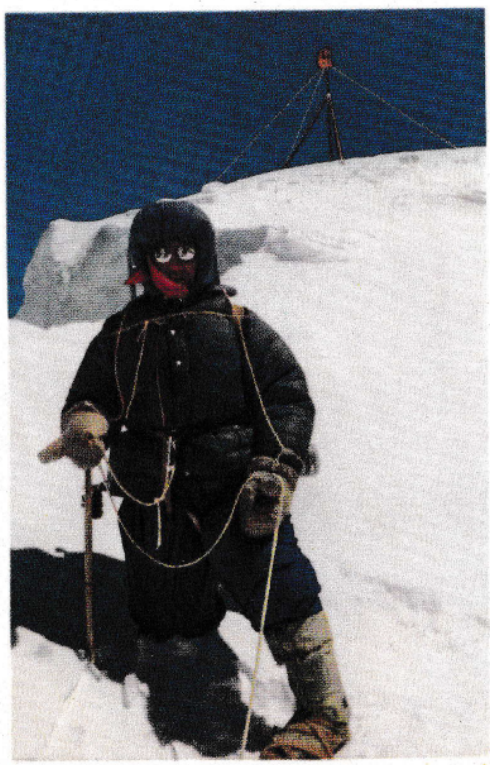
Samdrub



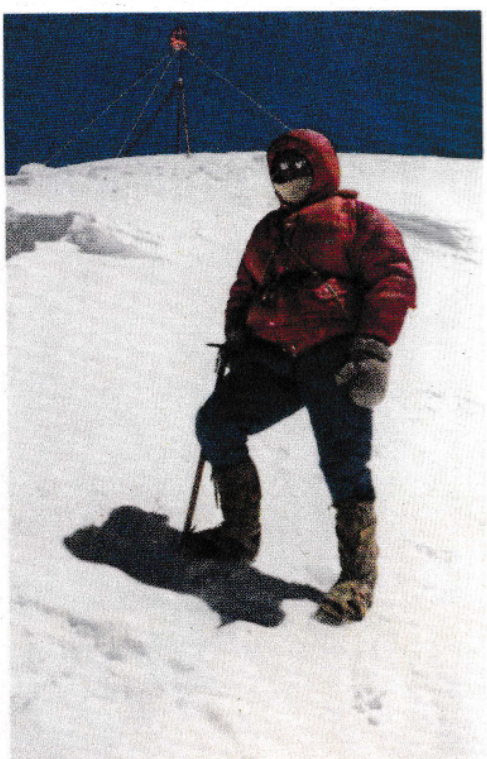
Darphuntso

Kunga Pasang

Tsering Tobgyal



Ngapo Khyen



After a 70-minute stay on the summit to finish their assignments, the assault party begins the descent.

They return to Base Camp safe and sound.

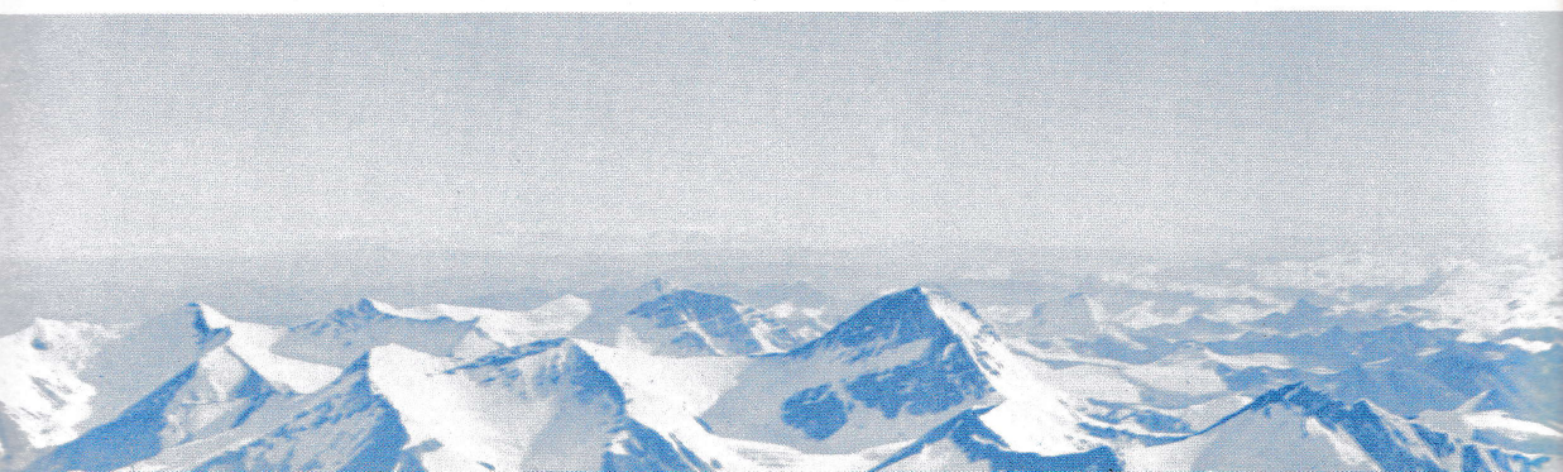
Returning to Base Camp Tibetan woman climber Phanthog is showered with congratulations.

Women Do an Equal Share with Men

AT 14:30 hours (Peking time) on May 27, 1975, Phanthog, deputy leader of the Chinese Mountaineering Expedition, triumphantly reached the top of Qomolangma together with eight men climbers and thus became the first woman alpinist in the world to scale the highest peak of the globe from its north slope. Her feat clearly demonstrated the new outlook of Chinese women steeled in the Great Proletarian Cultural Revolution and the movement to criticize Lin Piao and Confucius, and showed that with their revolutionary courage they can scale the greatest heights and storm the most formidable fortresses.

One may well recall the wretched life of the working women of China, particularly those in Tibet, who were at the bottom rung of the social ladder before liberation. Phanthog, daughter of a serf, had been subjected to brutal oppression by the serf-owners since childhood, when she had to go begging with her mother. After new China was born in 1949, an event of earthshaking significance, the Communist Party delivered China's working women from the abyss of misery. When she grew up Phanthog got a job at the "July First" State Farm in Lhasa and became one of the first women farm workers among the Tibetans. In 1959, she was one of the first Tibetan women selected to train as mountaineers.

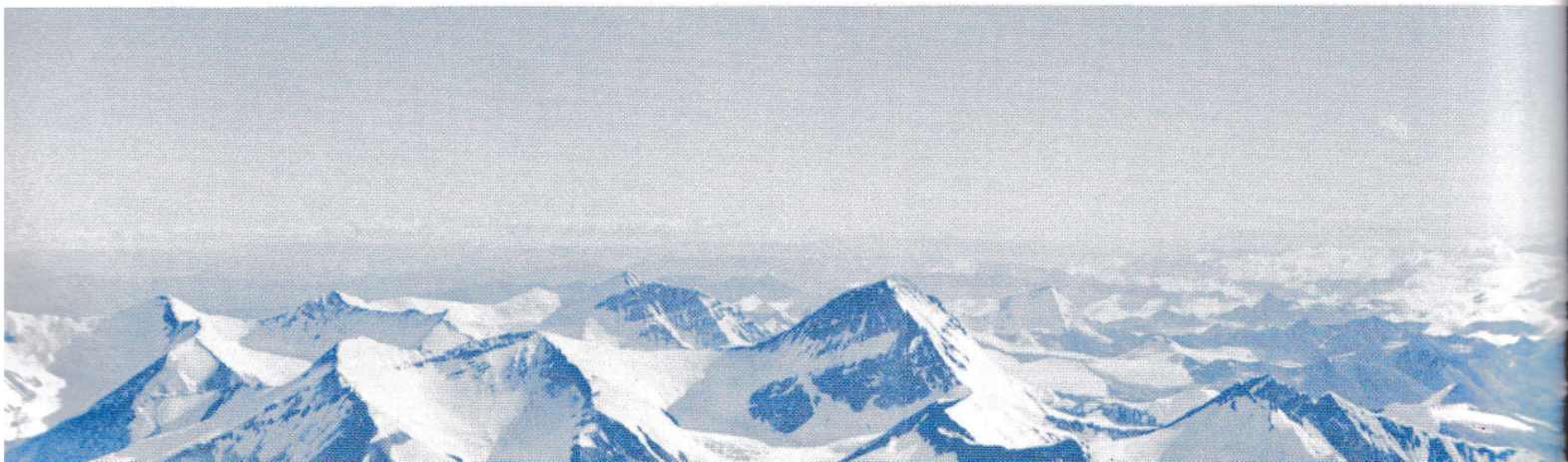
The Great Proletarian Cultural Revolution and the movement to criticize Lin Piao and Confucius swept away the reactionary and decadent doctrines of Confucius and Mencius, and all the old traditional ideas of



contempt for women were repudiated, thus further freeing the minds of the masses of Chinese women. **"Times have changed, and today men and women are equal. Whatever men comrades can accomplish, women comrades can too."** Living up to this teaching of Chairman Mao's the women members of the Chinese Mountaineering Expedition plunged into the battle for the conquest of the world's highest peak, displaying peerless courage worthy of the proletariat.

Among the 36 women who took part in the expedition were workers, commune members, People's Liberation Army soldiers, cadres and students of Tibetan, Hui, Evenki and Han nationalities. With the exception of 37-year-old Phanthog, who had twice broken the women's world alpine record in 1959 and 1961, all were newcomers in mountaineering, their ages ranging from 17 to 23. For many of them this was their very first expedition.

Throughout the ascent these heroines proved themselves as staunch as the men in standing up to trials and tribulations. Not a word of complaint was heard from them in spite of the afflictions caused by violent winds, heavy snows, bitter cold, oxygen deficiency, hunger and hazardous climbs. Carrying their considerable share of the equipment and supplies, they tackled névé, crevasses and ice walls in excellent form. In addition to Phanthog who reached the summit, three of them (Chamco, Gunsang and Zhasang) climbed to 8,600 m.; three others (Cering Balzhon, Wangmo and Gaylo) to 8,200 m.; two (Pasang and Balzhan) to 7,800 m. and seven (Cedan Zhoma, Cering Yangjan, Chou Huai-mei, Hsing Ling-ling, Migma Zhoma, Dasang and Zhogar) to 7,600 m. All broke the national women's altitude record of 7,595 m. This is yet another convincing proof that women of new China, guided by Mao Tsetung Thought, are a great force in building up our socialist country.



People of various nationalities in Lhasa give the mountaineers a rousing welcome back.

Scientific Survey of Qomolangma

DURING this expedition, Chinese scientific workers conducted a thorough survey of the Qomolangma area. They obtained a wealth of materials for various fields of study, thereby making new and important contributions to the development of scientific research in China.

Scientific investigation in the Qomolangma area is of great importance because of its unique geographical location and natural environment. Since liberation Chinese scientists have conducted several fruitful investigations there involving a number of branches of science.

The recent investigations were carried out on the basis of previous achievements. They involved such fields as survey-cartography, geology, high-altitude physiology and atmospheric physics. Studies in the background value of the elements in the un-pollution environment and heavy water were also included. Over 70 scientists from 13 research units and survey-cartographical departments in Peking, Shanghai, Tientsin and the provinces of Kiangsu, Szechuan, Shensi and Chinghai took part in this project. Among them were women scientists and worker-peasant-soldier university students, who were conducting such investigations in this area for the first time.

In the course of this undertaking, the scientific workers persisted in putting politics in command and applied themselves earnestly to the study of Marxism-Leninism-Mao Tsetung Thought, and the theory of the dictatorship of the proletariat, consequently further raising their consciousness of the principle that scientific research should serve proletarian politics, serve the workers, peasants and soldiers, and be combined with productive labour. With unstinted aid from local People's Liberation Army units and the Tibetan people and in the revolutionary spirit of fearing neither hardship nor death, they fought against the difficult conditions in the Qomolangma area, such as the lack of oxygen, exceedingly low temperatures and terrible snowstorms. In order to obtain as much first-hand information as possible, quite a few of the scientific workers climbed upwards of 7,000 m. above sea level.

Surveyors at a control point 6,120 m. above sea level training their instruments on the surveying tripod installed atop Qomolangma.

BRAVING exposure, survey-cartographical workers crossed glaciers and stood up to the lack of oxygen and to blizzards, taking gravimetrical measurements, doing astronomical and trigonometric surveys and working on the verification of aerial photographs on the East, Central and West Rongbuk glaciers on Qomolangma's north slope, covering a total area of over 140 square km. at heights ranging from 5,000 to 7,000 m. above sea level. They completed the control survey of Qomolangma's position and height, and recalculated the level of the 80-km. stretch from Dingri to the south of Rongbuk Monastery.

At 14:30 (Peking time) on May 27, when the nine Chinese climbers triumphantly reached the summit of Qomolangma and erected the surveying tripod there, survey-cartographical workers stationed at 10 control points at altitudes from 5,600 to 6,300 m. and within 7 to 21 km. of the summit, immediately took observations to intersect the position and height of the peak. In this way they successfully obtained all-round, exact data for determining the height of Qomolangma. Finally, after precise calculation and induction of the data, they gave the height of Qomolangma as 8,848.13 m. (excluding the snow cover) on the base point of the mean sea level of the Yellow Sea at the Tsingtao tide gauging station.

A gravity test at 7,007 m.

DURING this expedition Chinese scientific workers of high-altitude physiology became the first in the world to succeed in taking electrocardiograms of mountaineers who had reached 7,600, 8,300 and 8,680 m. and also of some of those who had got to the summit. They used a cold-resistant radio-controlled electrocardiographic instrument designed and manufactured in China, which was operated at a distance of more than 20 km. from the subjects. In addition, they conducted tests on the mountaineers both in low-lying country and at 5,000 m. above sea level, to detect changes in their respiratory, cardiovascular and cerebral functions, thus obtaining new data on the relationship between the adaptability of the human body to an oxygen-deficient environment at high altitudes and the changes in the physiological indices. These results confirmed those of earlier experiments conducted in a low-pressure cabin in low-lying country, with the conditions analogous to those at high altitudes, to determine the relationship between man's adaptation to acute cases of oxygen-deficiency and low atmospheric pressure and his adaptability to actual highland conditions. The results thus obtained provide data for the further study of the principles concerning the adaptability of the human body to oxygen-deficient environments.

Above: Physiologists analyse the climbers' adaptability at Base Camp.

Bottom: Physiologists stationed at the 6,500-m. camp conducting a radio-controlled electrocardiographic test on mountaineers working at altitudes above 8,000 m.

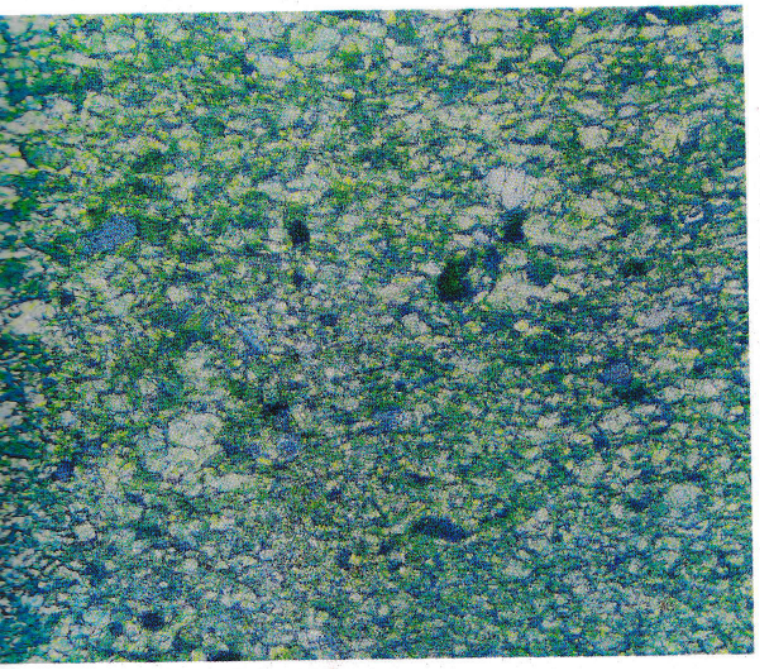
FOR the first time, scientific workers in atmospheric physics conducted correlation meteorological observations simultaneously on the north slope of Qomolangma and the south slopes of the Himalayan range this side of the border. Valuable data were thus obtained on the gradient meteorological element observations at 5,000, 5,400, 6,000, 6,500 and 7,007 m. on the north slope and at 2,300, 3,000 and 3,800 m. on the south slopes. They also gathered samples of ice, snow and soil and various biological specimens from 5,000 m. up to the summit. All these extremely rare finds will be of immense value to the study of meteorology, glacier formation and the constitution of the chemical elements in the precipitation in the Qomolangma area and the rest of the Himalayas. As they actually worked out weather forecasts, the meteorologists also gained a great deal of perceptual knowledge concerning the influence of the Himalayas and the Chinghai-Tibet Plateau upon atmospheric circulation and certain weather systems.

A scientist of atmospheric physics working at 7,007 m.

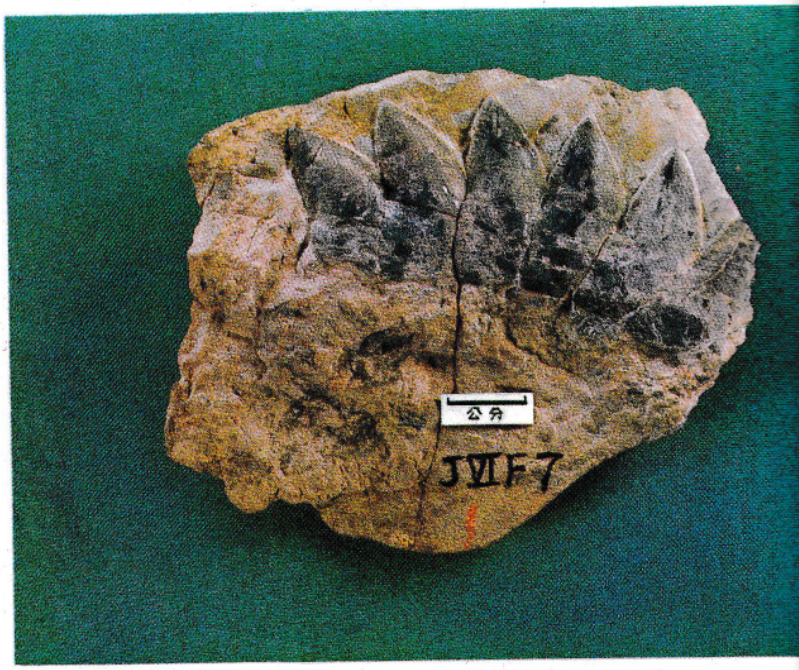
Geological workers collecting rock specimens at 5,100 m.

THE area around Qomolangma is typical of the geological structure of the Himalayas. Many problems remain to be solved here. Chinese geological workers who took part in the recent scientific investigations were resolved to gather still more substantial materials to add to those acquired in the course of the many expeditions carried out since liberation, on the basis of which they might study and explain the characteristics of the local geological structure. They explored an area of 300 square km. in order to observe the geological section on the north slope from Chubu to the summit. In the teeth of piercing winds, they climbed up hazardous slopes, traversed glaciers, passed through perilous séracs and névé basins with ice crevasses, to survey six geological sections with a total length of over seven km. and to reconnoitre still more sections along the route. They obtained a systematic collection of over 600 rock specimens from 4,700 m. up to the summit. These will lay a solid foundation for further studies regarding the geological structural features, magmatic activity, metamorphism and migmatization of the area. For the first time ever, geologists found fossils of Ordovician brachiopods and trilobites from limestone beds corresponding to the strata of the summit, in the Chuhala and Chienchin valleys and a third valley east of Rongbude Monastery — all close to Qomolangma. These fossils provide reliable evidence for determining the geological age of the rocks on the summit. They discovered glacio-marine (ice-berg) deposits in the Late Palaeozoic Strata, the first of their kind, near Chilong Monastery in the area being discussed, and also large amounts of fairly well preserved *Glossopteris* flora in the Permian rocks at Chubu. These discoveries are of great scientific value to the study of physiogeographic and climatic conditions of the Qomolangma area in pre-historic times.

Crystalline limestones from the summit of Qomolangma (under microscope, cross-nicole × 170).



Fossilized teeth of *Sinohelicoprion qomolangma* sp. nov. found in Chubu, Dingri County, Tibet, together with the ammonites from the Lower Triassic beds at an altitude of 4,900 m. This species lived in the shallow area of the ancient Himalayan sea about 215-225 million years ago.



Glacially-striated Pebbles and Glossopteris *Flora*

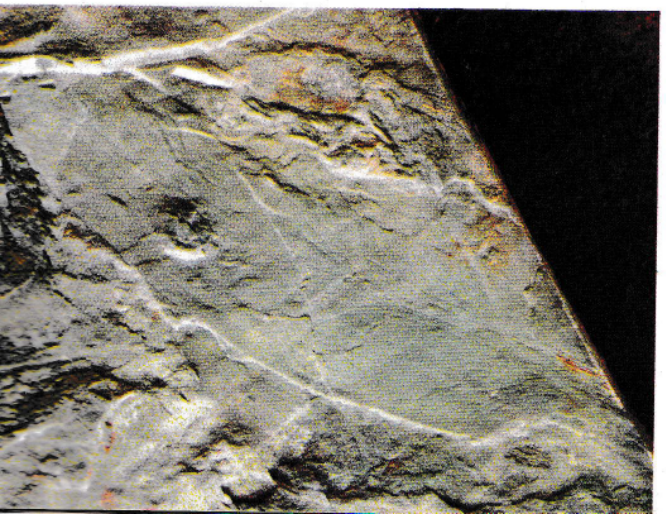
DURING the late Palaeozoic era (from the late Carboniferous to Permian periods, about 225-325 million years ago), in the Gondwanaland, i.e. the present Southern Hemisphere including South Africa, South America, Antarctica, Australia and additionally in the South Asia subcontinent, extensive continental glaciation took place, and the margin of glacial sheet reached as far as the littoral and shallow sea zone. At the same time the Gondwanaland was widely covered by *Glossopteris* flora which indicated climatic changes from cold to cold-temperate and more or less similar physiographic conditions.

The remains of the glaciation (ice-berg deposits) and the *Glossopteris* flora were found in the Qomolangma area of China for the first time, providing evidence that the Gondwana facies also existed in China's Tibet, and that the Qomolangma area and the South Asia subcontinent were once in the same palaeogeographic or palaeoclimatic region (The photos on these two pages are enlargements).

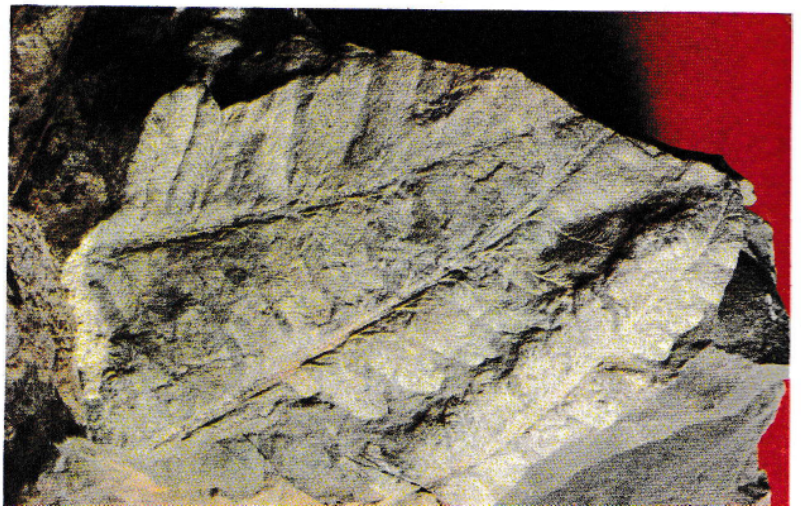
GLOSSOPTERIS FLORA (PERMIAN BEDS)

Glossopteris angustifolia Bgt. found at Kuchien Village, Dinggye County; *Merianopteris major* Feistm, *Raniganjia bengalensis* (Fstm.) Ridgy and *Glossopteris communis* Feistm found at 4,700 m. above sea level in the Chubu district.

① *Glossopteris angustifolia* Bgt.



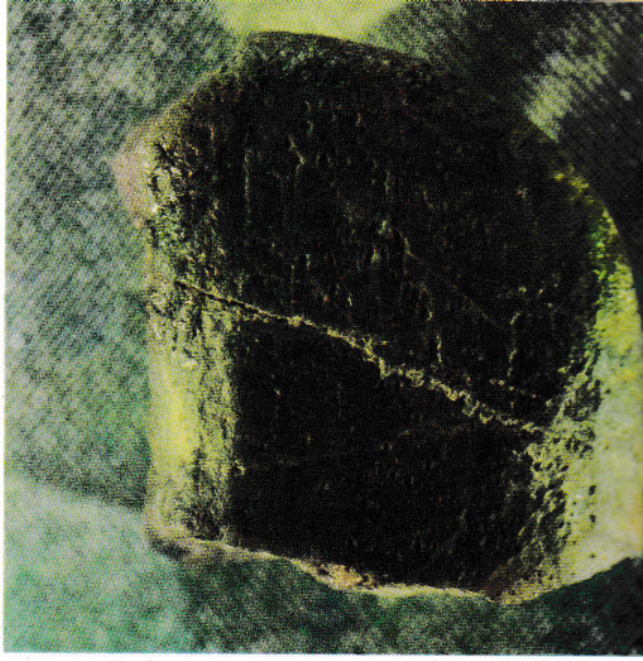
② *Merianopteris major* Feistm.



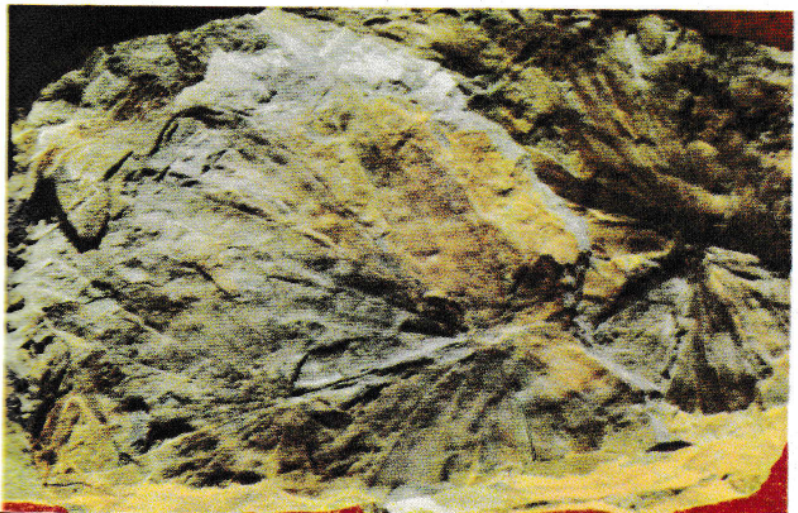
③ *Raniganjia bengalensis* Ridgy.

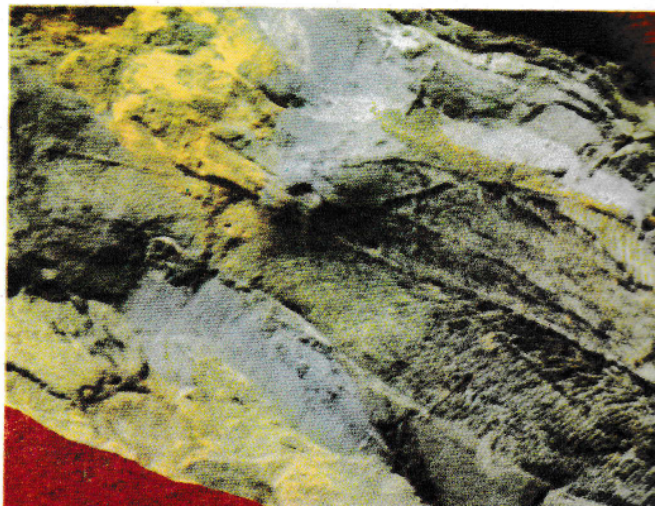
GLACIALLY-STRIATED PEBBLES

The outcrops of glacio-marine (ice-berg) deposits were found at 5,600 m. above sea level in upper Palaeozoic beds of Chilong Monastery, seven km. north of Rongbuk Monastery. Pebbles and boulders of differing lithology and size were scattered in a sort of mudstone mixed with fine clastic rocks with marine fossils. Polished surfaces, some with striae and press-marks, are shown in one of these pebbles. *Above:* The outcrops of glacio-marine (ice-berg) deposits. *Right:* Glacially striated pebbles.



④ *Glossopteris communis* Feistm.





Landscape of the southern slopes of the Himalayas this side of the border.

Wild Life on the Southern Slopes of the Himalayas This Side of the Border

Sunbird.

Langurs.

Small panda.

Flying squirrel.

①

②

③

Plants on the Southern Slopes of the Himalayas This Side of the Border

① *Tsuga yunnanensis* (Franch) Mast
② *Piptanthus laburnifolius* (D. Don) stapf
③ *Quercus semicarpifolia* and *Drynaria*
④ *Cirsium* sp.
⑤ *Aristolochia* sp.
⑥ *Malus pumila* Mill
⑦ *Rhododendron campanulatum* D. Don
⑧ *Rhododendron arboreum* Sm.
⑨ *Primula Sikkimensis* Hook

④

⑤

⑥

⑦

⑧

⑨

Photos by:

Sodnam Norbu
Lotse
Hou Sheng-fu
Samdrub
Darphuntso
Kunga Pasang
Ngapo Khyen
Wang Hung-pao
Shang Tze-ping
Wang Chen-hua
Yu Liang-pu
Tseng Shu-sheng
Tsou Hsing-lu
Ringen Puncog
Losang Gyancan
Lonam
Migmar Zhadü

Cewang Doje
Garma
Gyancan
Dobdan
Cering Doje
Fan Hui-shen
Cheng Chih-shan
Yuan Ke-chung
Kuan Tien-yi
An Ke-jen
Shen Chieh
Liu Yung-en
Chang Chi-cheng
Chen Lei-sheng
Chang Hsiao-ching
Wang Hung-chun
Weng Yi

再次登上珠穆朗玛峰
*
外文出版社出版（北京）
1975年（12开）第一版
编号：（英）8050—1556
01000
85—E—130P